

## **REMARKS**

Applicants have received and reviewed an Office Action dated November 21, 2001. By way of response, Applicants have cancelled claims 10, 20, and 28 without prejudice, amended claims 1, 4, 6, 9, 11, 13-14, 19, 21, 23, 30, 39-40, 44 and 50, and present new claim 52. No new matter is presented. Claims 1-9, 11-19, 21-27, and 29-52 are pending. Applicants submit the amended and newly presented claims are supported by the specification.

For the reasons given below, Applicants submit the amended and newly presented claims are in condition for allowance and notification to that effect is earnestly solicited.

### **Petition for Extension of Time**

It is noted that a two-month petition for extension of time is necessary to provide for timeliness of the response. A request for such an extension is made extending the time for response from February 21, 2002 to April 21, 2002, which was a Sunday, extending the time for response to Monday, April 22, 2002.

### **Rejection of Claims Under Section 112, First Paragraph**

The Examiner rejected claims 1-51 under 35 U.S.C. § 112, first paragraph. The Examiner objected to the term halogen in the claims. Applicants respectfully traverse this rejection.

Nonetheless, solely to advance prosecution of the present application and not to acquiesce to the rejection, Applicants have amended the claims to recite chlorine rather than halogen. Applicants note that the original claims were directed to chlorine, and, thus, the claims have not been narrowed. The claims have been returned to their original scope. Applicants reserve the right to pursue claims relating to halogens in one or more continuation applications.

Accordingly, it is respectfully submitted that the pending claims fully comply with § 112, first paragraph, and withdrawal of this rejection is respectfully requested.

### **Rejection of Claims Under Section 112, Second Paragraph**

The Examiner rejected claims 4, 6, 31, and 44 under 35 U.S.C. § 112, second paragraph. The Examiner objected to certain terms employed in the claims. Applicants respectfully traverse this rejection in part, and amend certain claims to address this rejection.

Claims 4 and 6 were broadened by removing the word “solid” to provide explicit antecedent basis in independent claim 1.

Amended claim 30 provides antecedent basis for recitation of “chlorine source” in claim 31.

Claim 44 has been clarified without narrowing the claim by removing the words “first” and “second”. Applicants believe that this addresses the concerns expressed in the Office Action.

Accordingly, it is respectfully submitted that the pending claims fully comply with § 112, second paragraph, and withdrawal of this rejection is respectfully requested.

### **Claim Objections**

The Examiner objected to claim 28, asserting that it did not further limit claim 19, from which it depended. Solely to advance prosecution of the present application and not to acquiesce to the objection, Applicants have cancelled claim 28. Applicants reserve the right to pursue any cancelled subject matter in one or more continuation applications.

The Office Action objects to the recitation of the term “builder salt” in claim 22 asserting that this is inconsistent with claim 17, which recites “builder”. Claim 22 depends from claim 19 and is consistent with claim 19. The compounds listed in claim 22 can properly be considered builder salts. Applicants are unaware of any authority requiring separate sets of claims to use the same terminology.

Accordingly, withdrawal of this objection is respectfully requested.

### **Prior Art Rejection**

The Examiner rejected claims 1-51 under 35 U.S.C. § 103(a) as obvious over Gladfelter et al. in view of Kitko (U.S. Patent No. 4,248,827). Applicants respectfully traverse this rejection.

As described in the response to the previous Office Action, the present invention relates to cleaning compositions including a dye that indicates the presence of an effective concentration of a chlorine sanitizer. Loss or change in color of the dye indicates that the concentration of chlorine has been reduced significantly and that additional sanitizer may be required.

As previously stated, the Gladfelter et al. reference relates to cleaning compositions including dyes that "are stable against degradation in the presence of strong chlorine releasing agents." (Gladfelter et al. at column 11, lines 32-35). The dyes disclosed by Gladfelter et al. would not lose or change their color in the presence of an effective concentration of a halogen sanitizer.

The secondary reference cited in the Office Action, the Kitko et al. reference, does not remedy the shortcomings of the primary Gladfelter et al. reference. *proof?*

First, the dyes disclosed in the Kitko et al. reference disappear quickly in the presence of chlorine. The Kitko et al. reference states that after contact with a chlorine sanitizing agent the dye reaches "a colorless state in the bowl within about 5 seconds to 10 minutes (preferably about 10 seconds to about 5 minutes)" (column 2, lines 13-18, and see also column 3, lines 53-58). The dye disappears this fast under conditions where the chlorine sanitizing agent is present in significant excess over the dye (column 2, lines 55-60, and column 3, lines 42-52). Under these conditions it is primarily the half-life of the dye in the presence of chlorine sanitizing agent that determines the duration of the color (See, e.g., Lehninger's Biochemistry text, relevant section submitted herewith as Exhibit A). *So?*

That is, a characteristic of the Kitko dyes limits the length of time that they show color in the presence of chlorine sanitizing agent. The Kitko dyes have the characteristic of producing color for only 5 seconds to 5 or 10 minutes in the presence of chlorine sanitizing agent. These short-lived dyes could not produce the claimed effect of showing color for a predetermined time that can be as long as 24 hours. *scope of the claim?*

Second, Kitko's use of short-lived dyes requires that the dye and the bleach be kept separate until they are mixed together in the toilet bowl (Kitko at column 2, lines 10-15 and column 8, line 48, through column 10, line 14). Kitko employs dispensers that prevent contact of the concentrates. In contrast, the present compositions can include both source of chlorine and source of dye together in a single composition. *In re Kerkovich*

Third, Kitko discloses that persistent color is undesirable (column 10, lines 26-30). *distinction?*  
According to the present invention, persistent color is desirable. In fact, the composition claims recite a dye that lasts for a predetermined period of time of 15 minutes to 24 hours. The persistent color indicates persistent source of chlorine. In response to disappearance of persistent

color, a worker employing the present composition or method would refresh the color by adding more of the composition. This is explicitly stated in newly presented claim 52.

In summary, the present claims clearly distinguish the present compositions and methods from the disclosure of the references cited in the prior art rejection. Each of the independent claims recites that the dye indicates the presence of active halogen (or reacts with active halogen) and that the dye indicates the presence of active halogen for from 15 minutes to 24 hours or, in claim 30, until after greater than 90% of the oxidizing species have been consumed. Therefore, the references cited in these prior art rejections neither disclose nor suggest the presently claimed compositions and methods.

Accordingly, based on the foregoing differences, is respectfully submitted that the references cited in the prior art rejection neither teach nor suggest the presently claimed compositions are methods, and withdrawal of this rejection is respectfully requested.

#### Summary

In summary, Applicants submit that each of claims 1-9, 11-19, 21-27, and 29-52 are in condition for allowance.

The Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below, if the Examiner believes that doing so will expedite prosecution of this application.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

1. (Twice Amended) An active [halogen] chlorine containing solid unit containing a [halogen] chlorine source and a source of dye, the solid unit comprising:
- (a) about 1 to 90 wt% of a source of [halogen] chlorine; and about 10 to about 200 parts by weight of the source of [halogen] chlorine per each part of dye; and
- (b) a source of a dye, the dye comprising a particulate dye having a minimum particle size of about 200 microns; the dye, when reacted with the [active] source of [halogen] chlorine, changing or depleting its color over a predetermined time of 15 minutes to 24 hours;
- wherein the solid unit comprises a major dimension greater than about 2 millimeters and a weight greater than about 2 grams, the solid unit substantially free of an amount of free water sufficient to act as a reaction medium between the [solid halogen] chlorine source and the dye.
4. (Amended) The solid unit of claim 1, wherein the [solid] chlorine source comprises an alkali metal dichloroisocyanurate dihydrate.
6. (Amended) The solid unit of claim 4, wherein the [solid] chlorine source comprises an encapsulated alkali metal dichloroisocyanurate dihydrate.
9. (Twice Amended) A particulate composition forming an aqueous solution having an active [halogen] chlorine source and a dye, the particulate composition comprising:
- (a) about 1 to 90 wt% of an encapsulated source of [halogen] chlorine; and
- (b) an effective [halogen] chlorine indicating amount of dye;
- wherein the concentrate has substantially no free water, has an extended shelf life of greater than one month and when added to an aqueous diluent provides a dye that indicates the presence of an active [halogen] chlorine concentration for a predetermined time of 15 minutes to 24 hours.
11. (Amended) The composition of claim [10] 9, wherein the source of chlorine comprises chloroisocyanurate compound.

13. (Amended) The composition of claim 9, wherein the [indicator] dye comprises FD&C dye No. 40.

14. (Amended) The composition of claim 9, wherein the [indicator] dye comprises FD&C dye No. 3.

19. (Twice Amended) An aqueous liquid cleaning or sanitizing composition containing a dye that indicates [halogen] chlorine concentration, the liquid comprising a major proportion of an aqueous diluent, and

- (a) a source of acid;
  - (b) an effective amount of a dye to obtain a colored solution for a predetermined period of time of 15 minutes to 24 hours;
  - (c) an effective cleaning or sanitizing amount of a [halogen] chlorine bleach;
- wherein the aqueous composition has a pH less than 7 and the dye color is depleted or changed before the concentration of [halogen] chlorine is depleted to less than 50 ppm from the composition.

21. (Amended) The composition of claim [20] 19, wherein the source of chlorine comprises a chloroisocyanurate compound.

23. (Amended) The composition of claim 19, wherein the [indicator] dye comprises FD&C dye No. 40.

30. (Twice Amended) A method of hand washing ware in a sink having two or more basins, using a dye in an aqueous oxidative [halogen] chlorine based cleaner or sanitizer composition, the method comprising:

- (a) contacting ware with an aqueous detergent in a first basin to remove soil, producing cleaned ware; and
- (b) contacting the cleaned ware in a subsequent basin with an aqueous sanitizer solution comprising an effective amount of a [halogen] chlorine source and a [halogen] chlorine indicating dye, the dye, when reacted with the active source of [halogen] chlorine, changing or

depleting its color and being sufficiently stable in the aqueous solution to maintain at least some detectable color in the sanitizing solution after greater than 90% of the oxidizing species have been consumed.

39. (Amended) The method of claim 30, wherein the [indicator] dye comprises FD&C Dye #40.

40. (Amended) The method of claim 30, wherein the [indicator] dye comprises FD&C Dye #3.

44. (Amended) The method of claim 42, wherein the encapsulated chlorine source comprises a particle of the chlorine source, [a first] an inorganic layer, and [a second] an organic layer.

50. (Twice Amended) A sanitizing solution useful in sanitizing a surface, the solution comprising:

- (a) a major proportion of an aqueous medium having a pH less than 7;
- (b) about 1 to 90 wt% of a source of an encapsulated active [halogen] chlorine source resulting in at least 100 ppm active [halogen] chlorine;
- (c) an effective amount of a dye to obtain a colored solution for a predetermined period of time of 15 minutes to 24 hours; and
- (d) a solid diluent or extender salt.